Green Receipt Dispenser

NFC User Guide

VERSION 0.1

MIRANO

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System Requirements

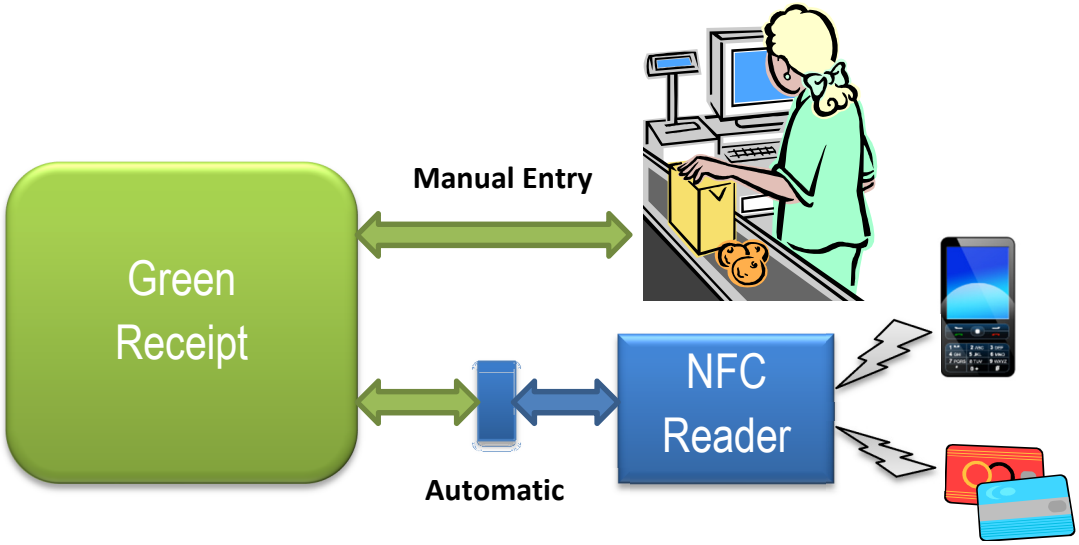
- ACR1222L VisualVantage NFC Reader with LCD.
- ACR1222L Smartcard drivers from Advanced Card Systems Ltd.

Customer Requirements

- NFC Enabled Smartphone, or
- Pre-programmed MIFARE Classic or MIFARE Ultralight Card/Tag

How It Works

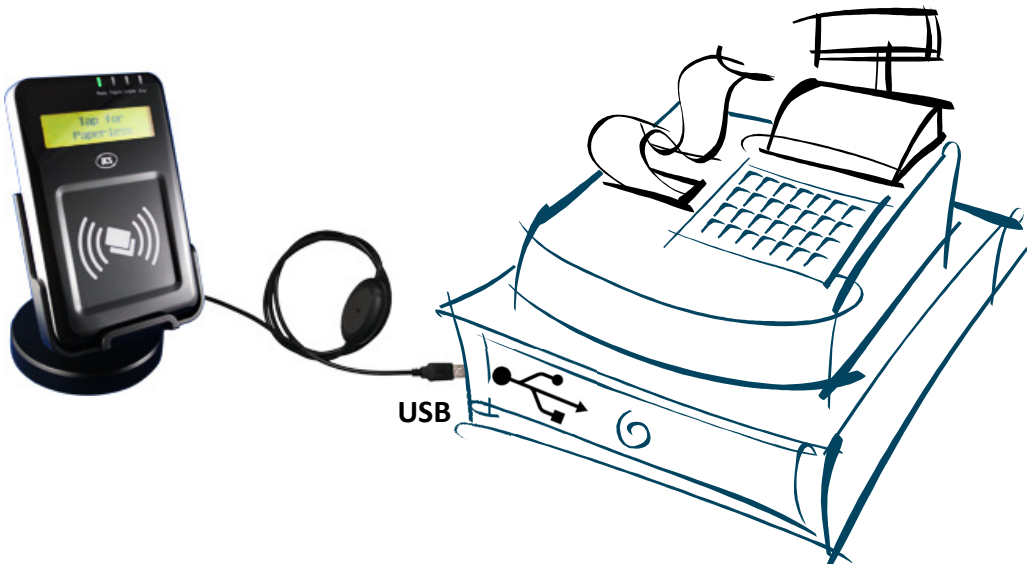
Near Field Communication (NFC) is used to accept customer address from either NFC enabled smartphones or NFC cards/tags.



NFC Benefits

- Customer experience is greatly increased.
- Cashier does not need to deal with requesting sensitive information from the customer.
- No typing errors or fake entries.
- No additional delays in the checkout process.
- Ease of use.
- No additional requirement for customers with NFC enabled smartphones.

NFC Reader Installation

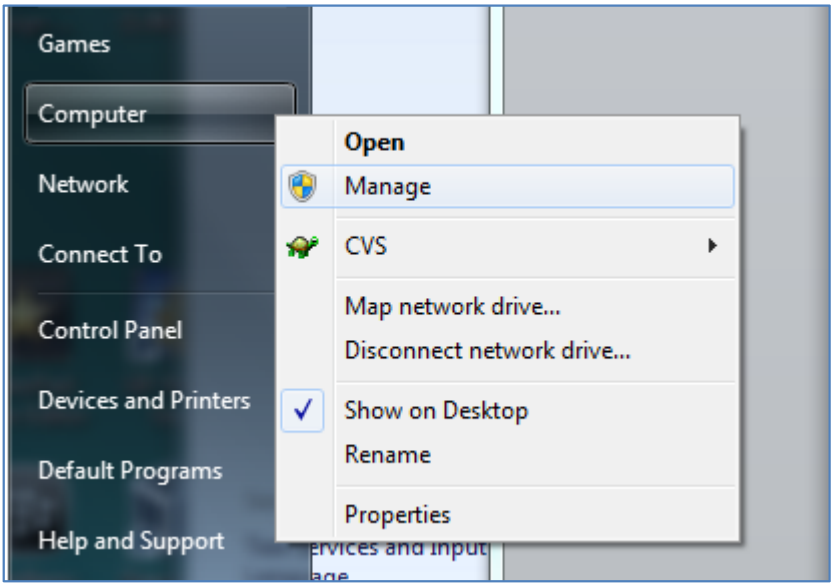


1. The ACR1222L NFC reader requires the correct Smartcard drivers to be installed on the POS computer for it to operate correctly with the Green Receipt product.
2. Before you begin with the installation process, familiarize yourself with the driver installation steps outlined in this document.
3. Obtain the ACR1222L Smartcard driver package from Advanced Card Systems Ltd and place the driver package on the POS computer. The download link for the Smartcard driver package is provided below.

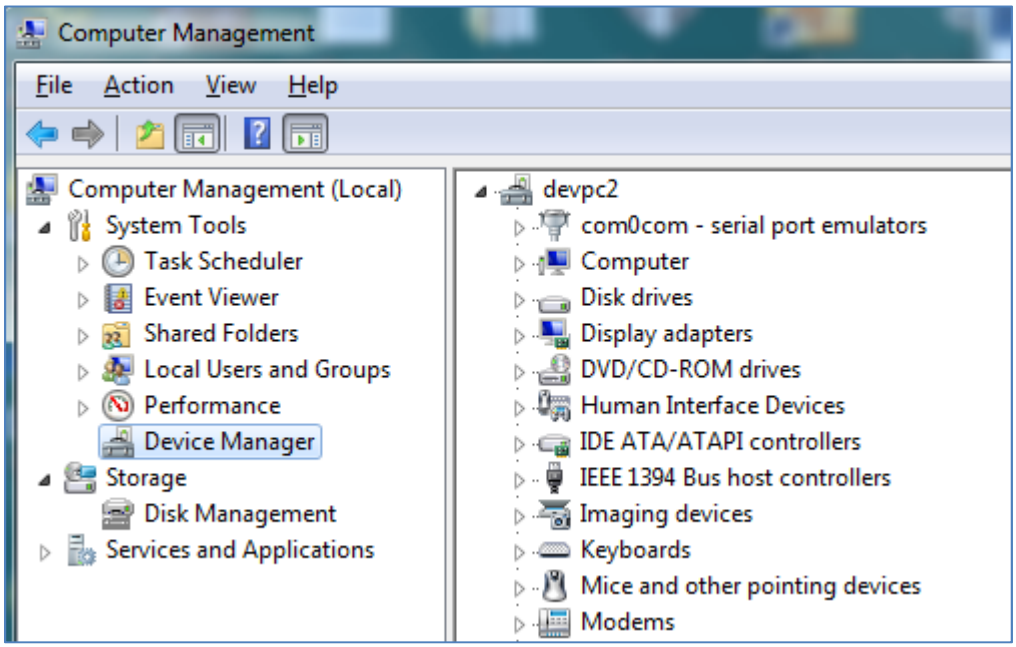
   http://www.acs.com.hk/drivers/eng/ACR1222_Driver_Win_1003_P%20(Beta).zip
4. Extract the contents of the above compressed package onto the hard drive of the POS computer.
5. Plug in the USB based NFC reader into a spare USB port on the POS computer. The NFC reader obtains it power from the USB port and does not require a separate power adaptor.
6. For Windows Vista and Windows 7 based POS computer, follow the steps outlined in the Windows Vista and Windows 7 section of this document
7. For Windows XP based POS computer, follow the steps outlined in the Windows XP section of this document.

Windows Vista and Windows 7

1. By default, the Microsoft supplied drivers for smartcard reader are automatically installed for the ACR1222L. These default drivers are not recommended for use with the Green Receipt product. Select “Manage” by right-clicking on the “Computer” menu.

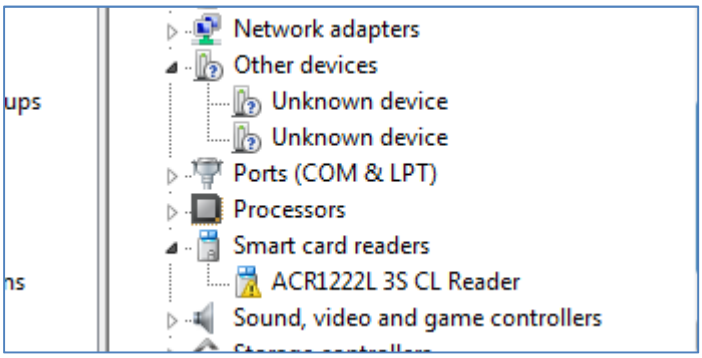


2. Wait for the “Computer Management” application to open up. Click on the “Device Manager” item.

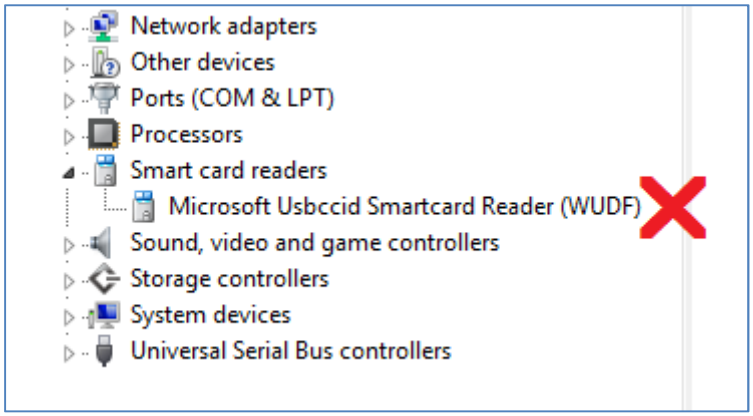


3. On the right panel, expand the “Smart card readers” group. You will see one of the following depending on how up to date the version of Windows Vista/7 is on the POS computer:

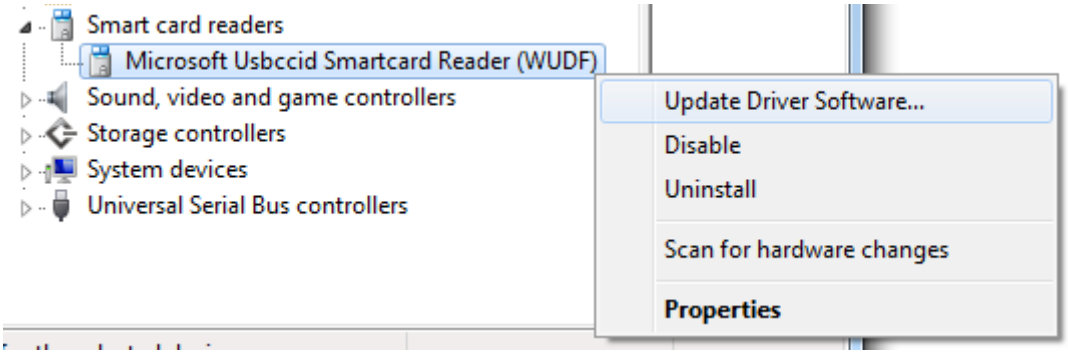
    a. No default driver has been installed. Continue to Step 4.



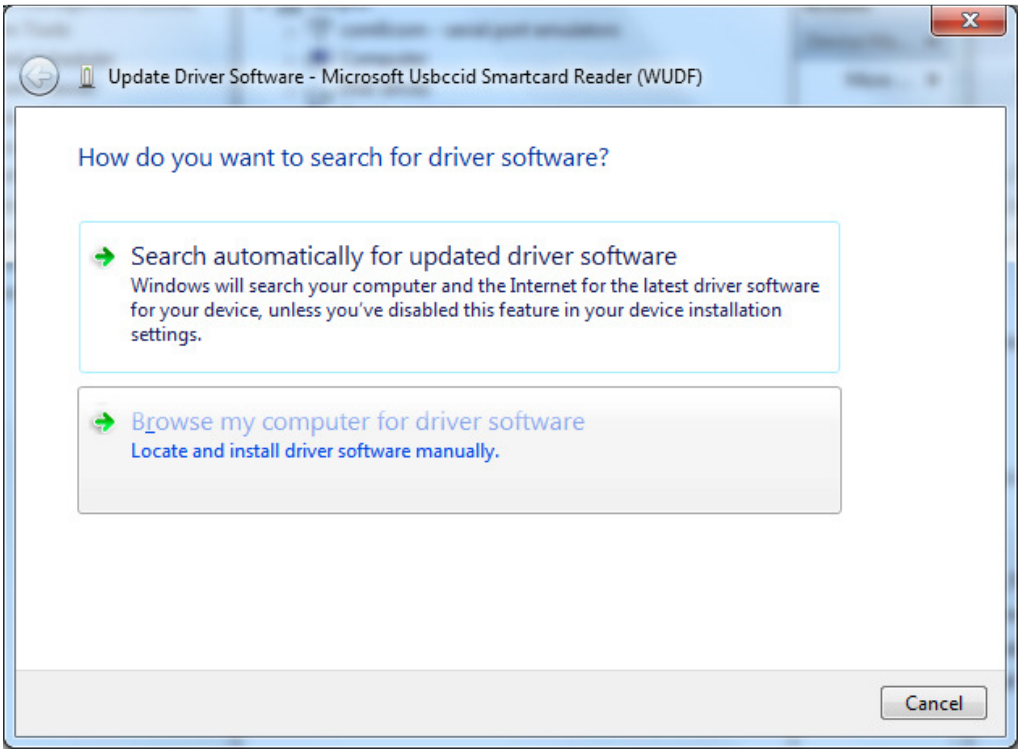
    b. The default “Microsoft Usbccid Smartcard Reader (WUDF)” has been selected and installed for the reader. Continue to Step 4.



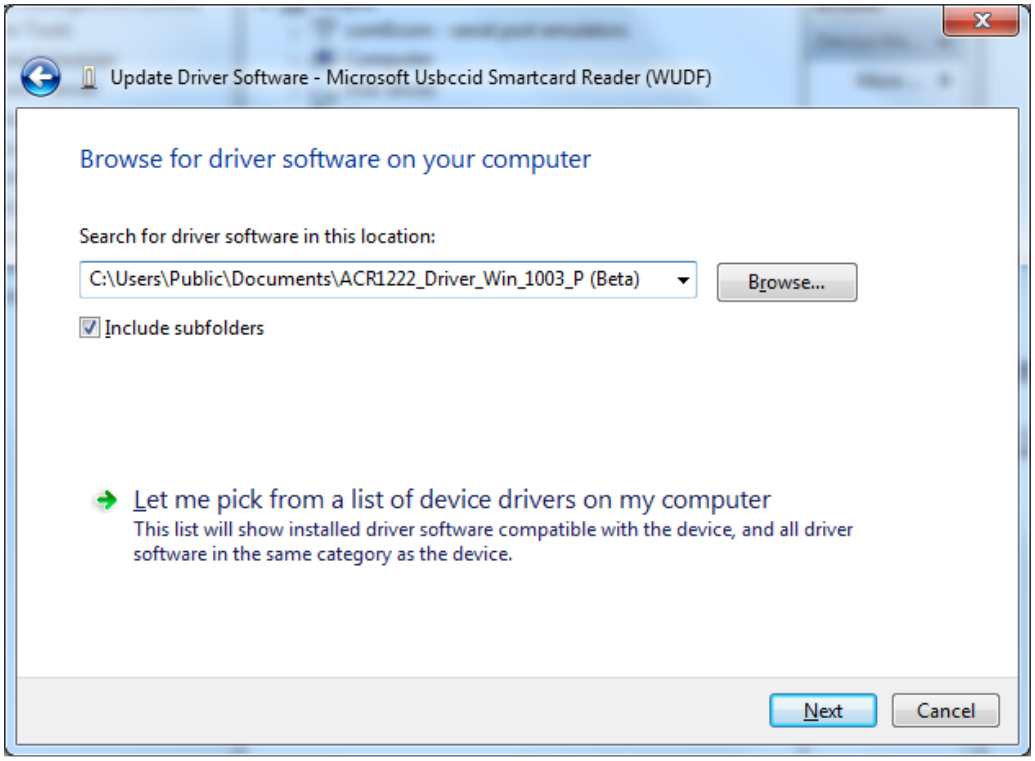
4. Right click on the “Microsoft Usbccid Smartcard Reader (WUDF)” item to select the “Update Driver Software…” option.



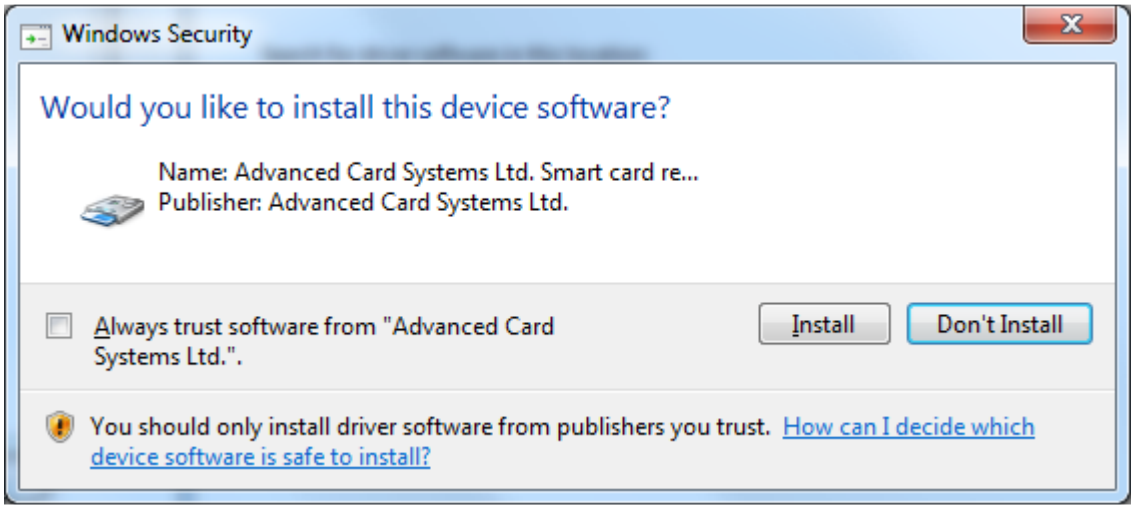
5. Select the second option “Browse my computer for driver software”.


Update Driver Software - Microsoft Usbccid Smartcard Reader (WUDF)
How do you want to search for driver software?
Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.
Browse my computer for driver software
Locate and install driver software manually.
Cancel

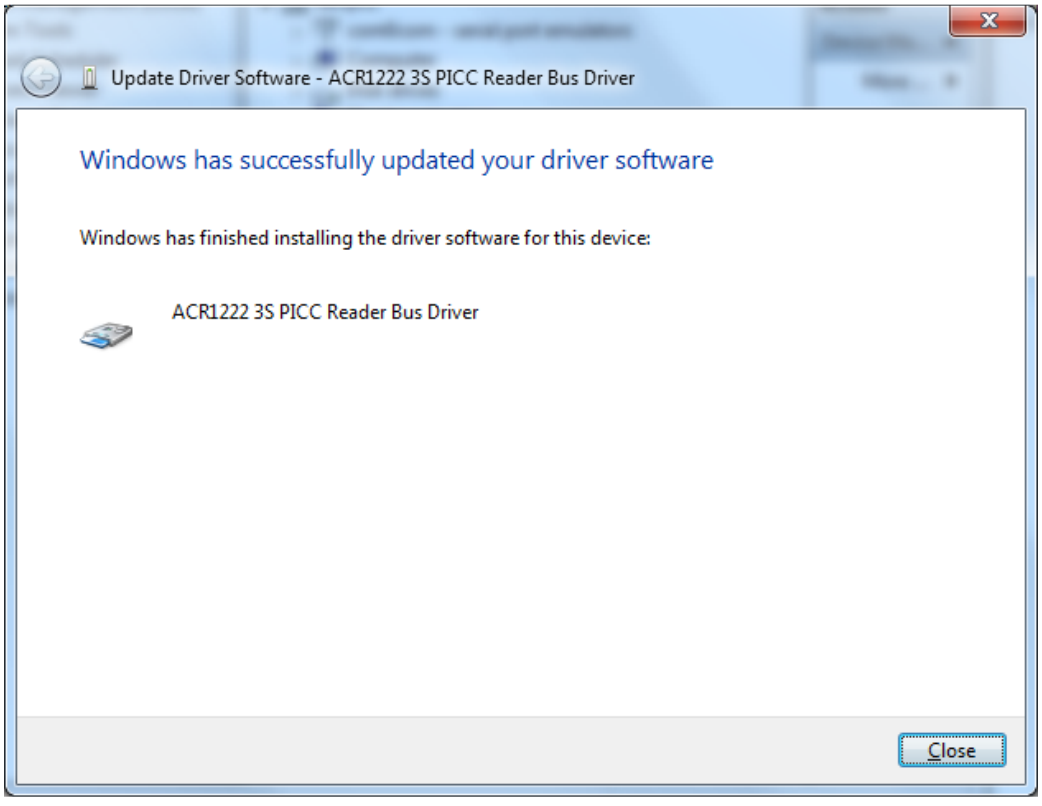
6. Use the “Browse…” button to navigate to where you had previously extracted the driver files to.


Update Driver Software - Microsoft Usbccid Smartcard Reader (WUDF)
Browse for driver software on your computer
Search for driver software in this location:
C:\Users\Public\Documents\ACR1222_Driver_Win_1003_P (Beta)
Browse...
Include subfolders
Let me pick from a list of device drivers on my computer
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
Next
Cancel

7. In some cases you will be prompted to verify the source of the driver. Select “Install” if you are certain that you obtained the installation program from the manufacturer.

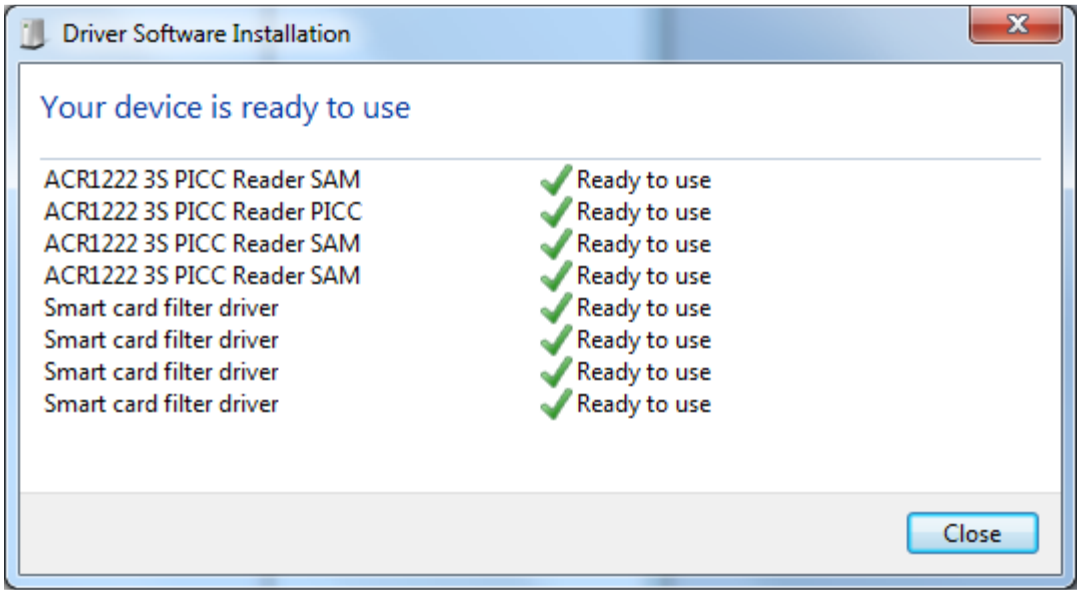

Windows Security
Would you like to install this device software?
Name: Advanced Card Systems Ltd. Smart card re...
Publisher: Advanced Card Systems Ltd.
Always trust software from "Advanced Card Systems Ltd.".
Install
Don't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?

8. Follow the instructions on the screen to complete the installation.

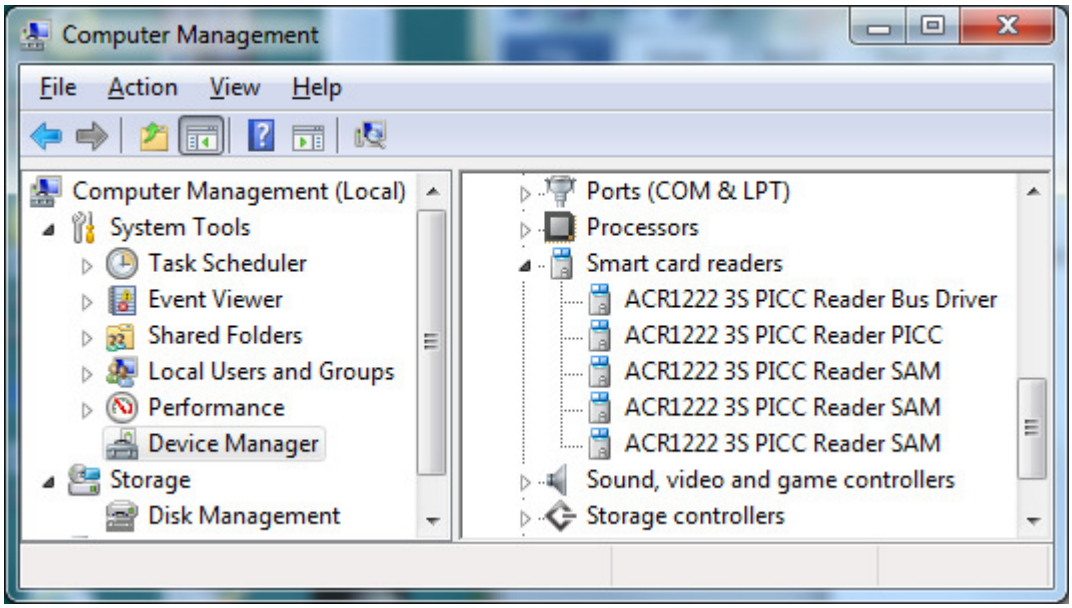

Update Driver Software - ACR1222 3S PICC Reader Bus Driver
Windows has successfully updated your driver software
Windows has finished installing the driver software for this device:
ACR1222 3S PICC Reader Bus Driver
Close

9. Wait for the drivers to be installed.

10. On Windows Vista and later, you will see the “Driver Software Installation” screens appear during installation.

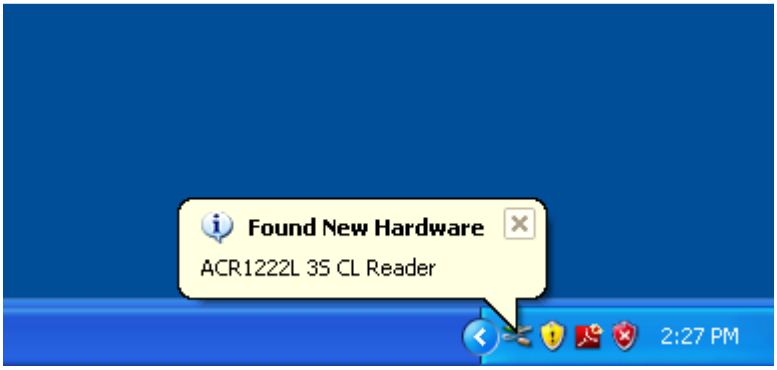


11. You should see the following five (5) devices listed in the Smart car readers group if the driver installation was successful:
    a. “ACR1222 3S PICC Reader Bus Driver”
    b. “ACR1222 3S PICC Reader PICC”
    c. “ACR1222 3S PICC Reader SAM”
    d. “ACR1222 3S PICC Reader SAM”
    e. “ACR1222 3S PICC Reader SAM”



Windows XP

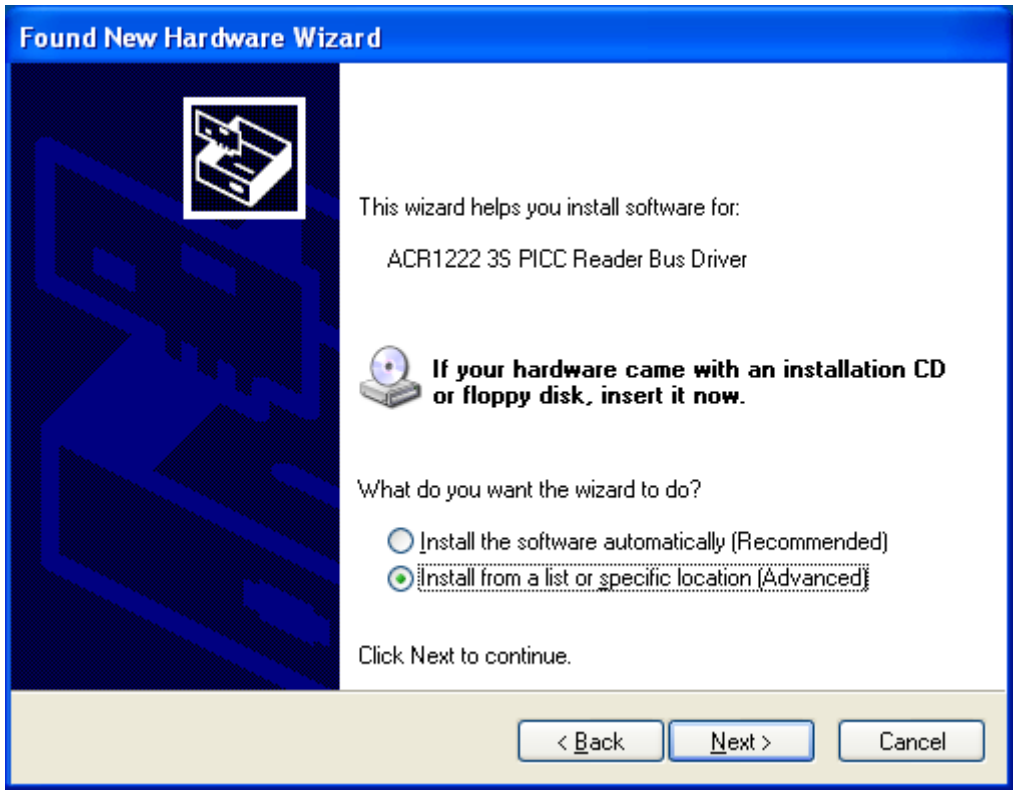
1. On Windows XP, you will see a different set of screens from the above. The “Found New Hardware” message will pop up in the bottom right corner of the screen.



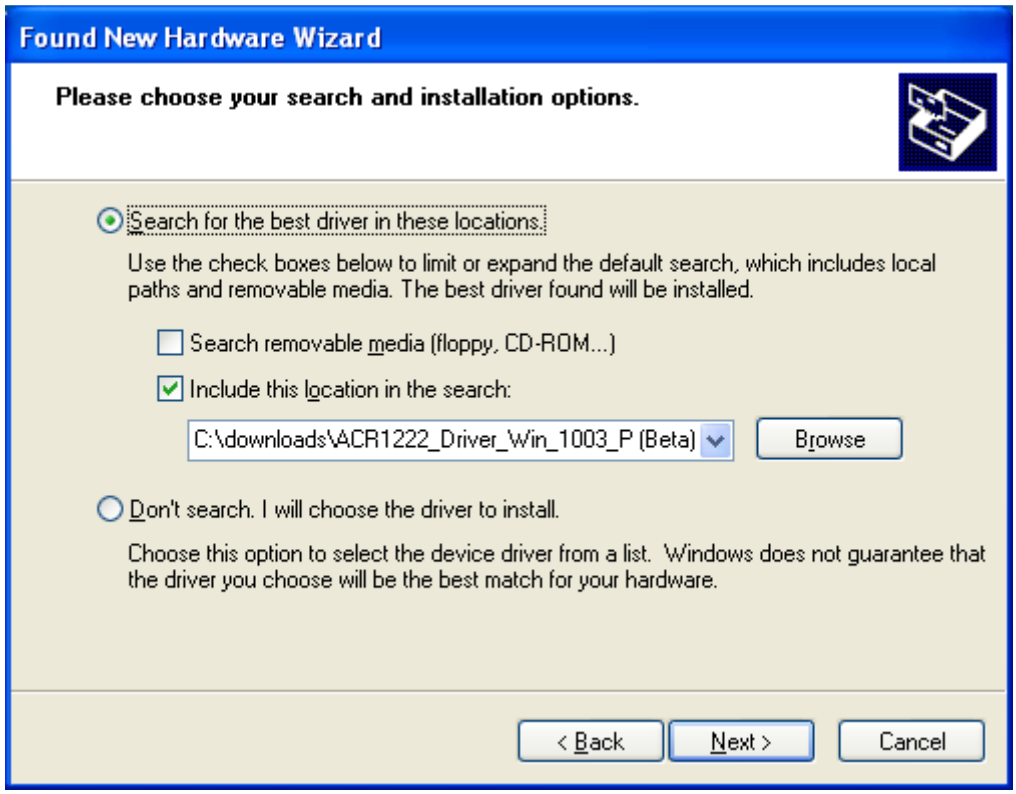
2. On Windows XP, the “Found New Hardware Wizard” will be displayed.
3. Select “No, not this time” option.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

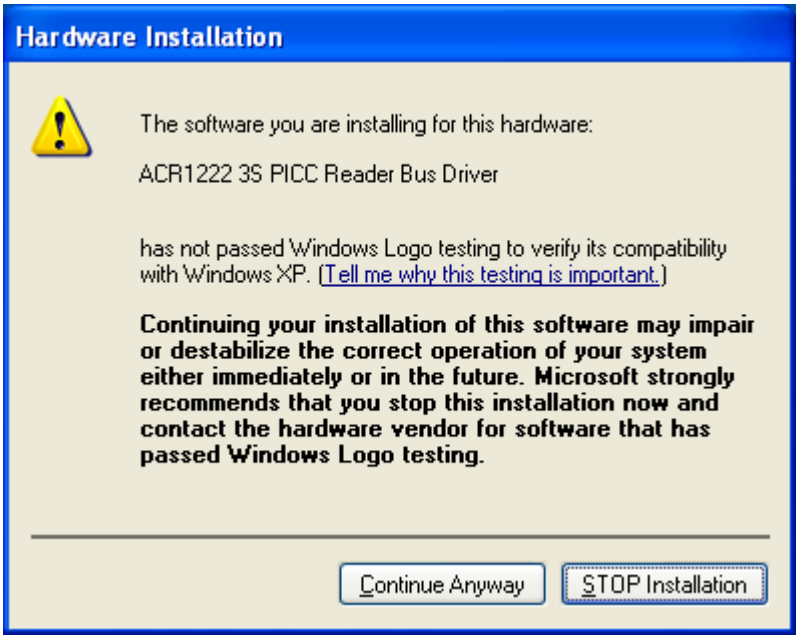
4. Select “Install from a list or specific location (Advanced)” option on the next displayed screen.


Found New Hardware Wizard
This wizard helps you install software for:
ACR1222 3S PICC Reader Bus Driver
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

5. Uncheck “Search removable media (floppy, CD-ROM…)”
6. Use the “Browse…” button to navigate to where you had previously extracted the driver files to


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\downloads\ACR1222_Driver_Win_1003_P (Beta)
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

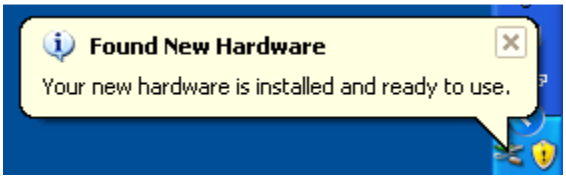
7. On Windows XP, the Windows Logo testing warning message will appear. Click on “Continue Anyway” to install the driver.


Hardware Installation
The software you are installing for this hardware:
ACR1222 3S PICC Reader Bus Driver
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

8. The above steps will be repeated for each of the four (4) remaining devices. You should see “Found New Hardware Wizard” repeated for the following four (4) additional devices:

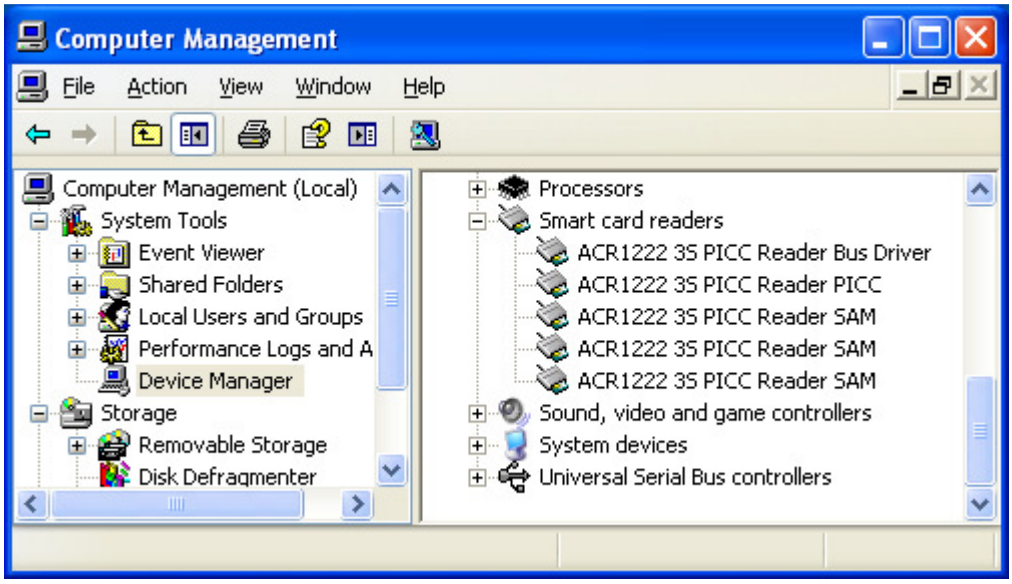
   a. “ACR1222 3S PICC Reader PICC”
   b. “ACR1222 3S PICC Reader SAM”
   c. “ACR1222 3S PICC Reader SAM”
   d. “ACR1222 3S PICC Reader SAM”

9. On Windows XP, the “Found New Hardware” message will pop up again on the bottom right of the screen to let you know that the new hardware is installed and ready for use.



10. You should see the following five (5) devices listed in the Smart car readers group if the driver installation was successful:

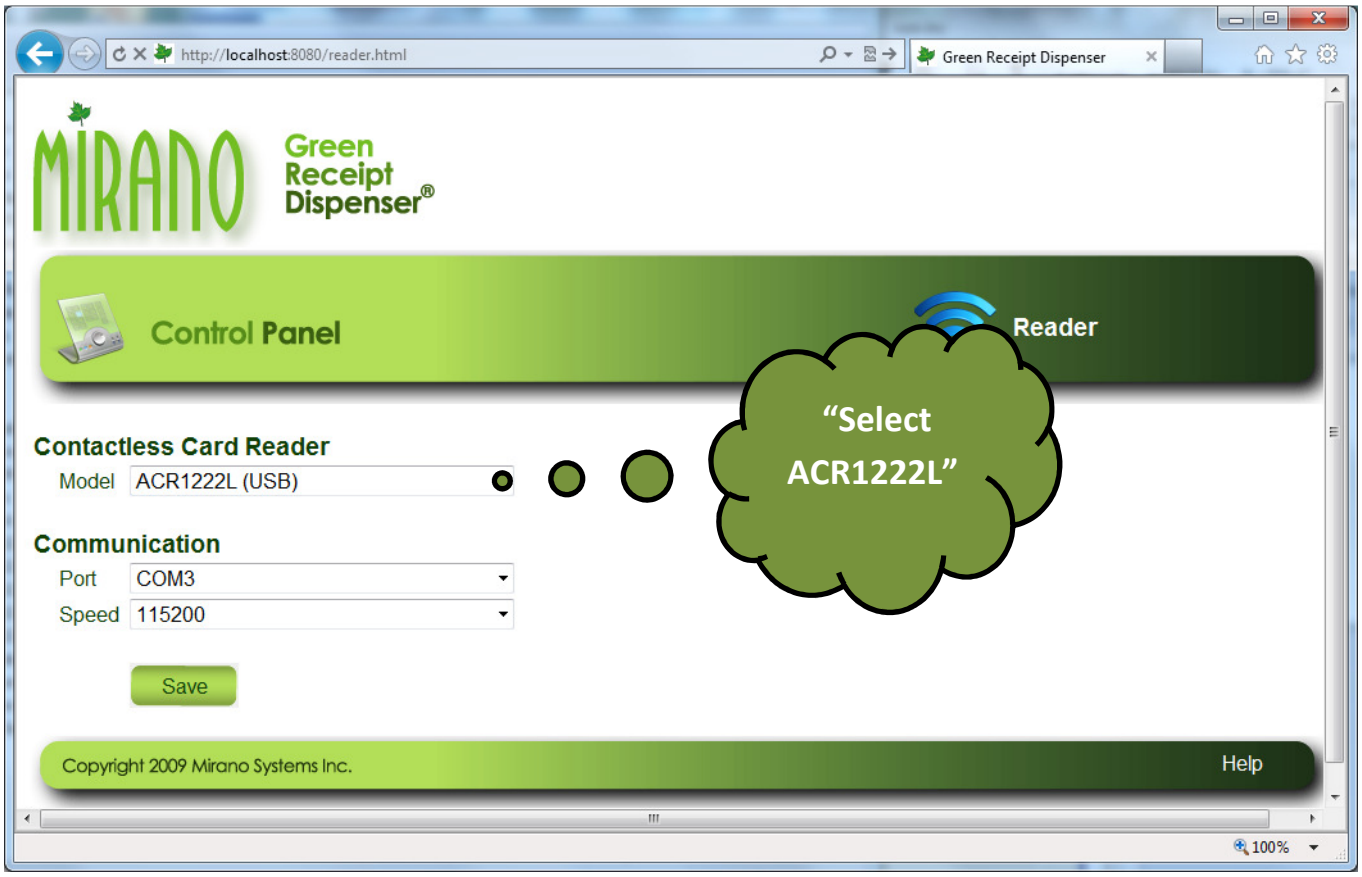
    a. “ACR1222 3S PICC Reader Bus Driver”
    b. “ACR1222 3S PICC Reader PICC”
    c. “ACR1222 3S PICC Reader SAM”
    d. “ACR1222 3S PICC Reader SAM”
    e. “ACR1222 3S PICC Reader SAM”



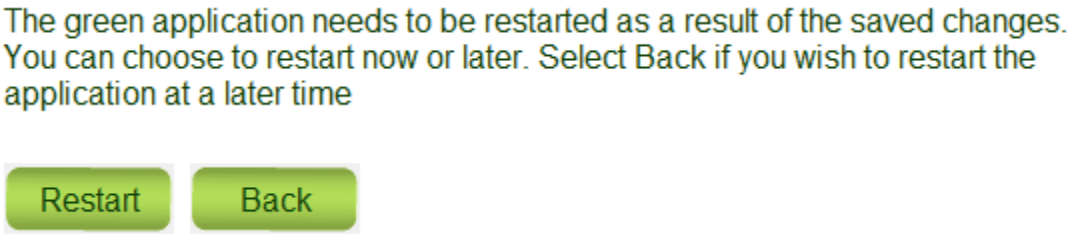
The driver installation process is complete.

Contactless Card Reader

1. The contactless card reader is used for Near Field Communication (NFC) functionality and needs to be enabled. Use the “Reader” configuration area to select the “ACR1222L (USB)” reader. The “Communication” settings are not applicable and should be ignored for the ACR1222L (USB) reader.



2. You will be prompted to restart the system after you make changes and save the configuration. You can choose to defer the restarting of the system at a later time after all the required changes have been made. The choice whether to defer or not is a personal choice.


The green application needs to be restarted as a result of the saved changes. You can choose to restart now or later. Select Back if you wish to restart the application at a later time
Restart
Back

3. The Green Receipt will turn the backlight of the ACR1222L to ON and will display the “Please Present Card” message.

The NFC reader installation and configuration process is complete.

Tapping

1. The customer can tap their NFC enabled smartphone or a pre-programmed MIFARE card anytime before the cashier has finalized the sale.
2. The Green Receipt has been designed to use the built-in share contact functionality of NFC enabled smartphones to accept the delivery address for the digital/paperless receipt. Refer to the NFC enabled smartphone for instructions. In addition, our website has some tutorials for the commonly used NFC enabled smartphones.

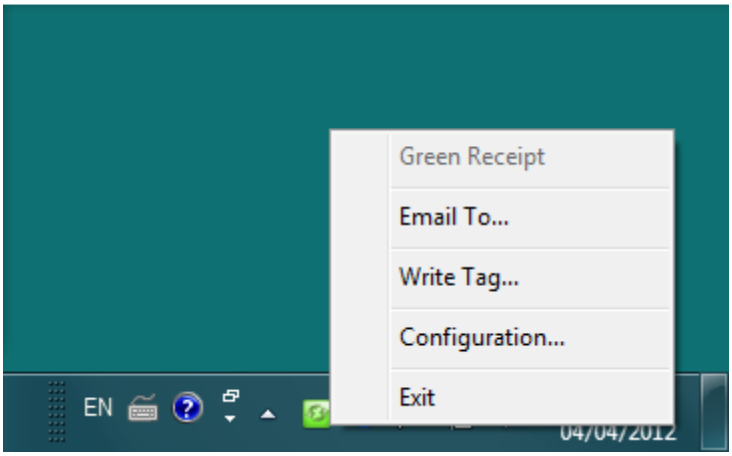
NFC Reader Display

Display Messages

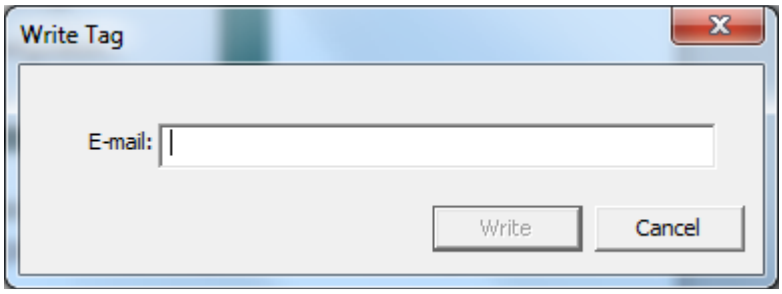
Please Present Card, Tap for Paperless	-	The unit is ready for the customer to tap either the smartphone or the contactless card to the reader.
Fail Remove Card	-	The contactless card is not correctly programmed to operate with the Green Receipt or smartphone does not support NPP or SNEP. For “Write Tag” - The contactless card is not a MIFARE Ultralight or the MIFARE Ultralight is not writable.
Thank You	-	The unit has accepted the v-card information from the smartphone or the contactless card. The next receipt will be sent to the email address identified in the v-card
Present Blank Card	-	The unit is ready to program a MIFARE Ultralight with customer delivery address

Programming MIFARE Ultralight

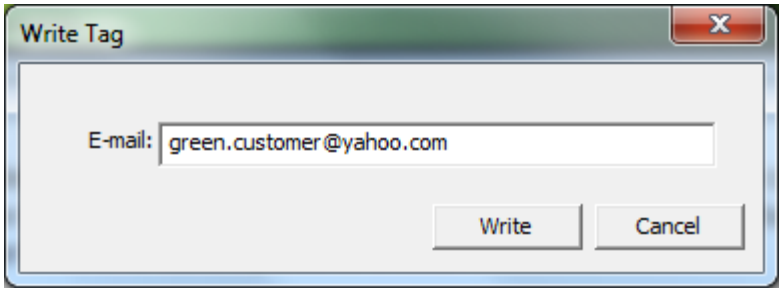
1. The Green Receipt has a built-in feature that allows you to program MIFARE Ultralight cards/tags with customer delivery address for those customers who do not have NFC enabled smartphones.
2. Select the **Write Tag…** menu from the Green Receipt tray icon.



3. Please note that the Write Tag window will not allow the cashier to enter an email address if the system is not configured correctly and the **Status** on the control panel is reporting the "**Error**" message.



4. Enter a valid email address and click on **Write**.



5. The NFC Reader will beep and display "Present Blank Card". Please note that it could take up to 5 seconds for this message to appear. Tap a blank or writable MIFARE Ultralight and wait for the "Thank You" message from the reader. The MIFARE Ultralight is now ready for use by the customer and can be attached to the back of his/her smartphone.

Near Field Communication (NFC)

Supported Standards

Customer Contact	-	• V-CARD (text/vcard)
		  o EMAIL
		• MECARD (text/vcard)
		  o EMAIL
		• NFC URI type “mailto”

NFC Data Exchange Format (NDEF)	-	• NFC Forum well-known type
		  o URI (U)
		  o Smart Poster (Sp)
		• Media-type as defined in RFC 2046
		  o text/vcard

NFC Simple NDEF Exchange (SNEP)	-	Andriod 4.x (ICS) smartphones • Google Galaxy Nexus
NDEF Push Protocol (NPP)	-	Android 2.x smartphones • Google Nexus S
NFC Forum Tags	-	• Mifare Classic o Mifare Application Directory (MAD) • Mifare Ultralight

Technical Support

Mirano’s website contains the latest user documentation and software updates for Mirano products. U.S and Canadian customers can contact Mirano Technical Support through our website.

World Wide Web
http://support.mirano.ca